July 2000

MAINTENANCE BULLETIN

Alfa Company

You are invited to send your ideas for, improving maintenance procedures, suggestions for articles, or comments on material published in the Maintenance Bulletin. Just write to the address below:

Officer in Charge, NAVFACENGCOMDET,

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Methods of Obtaining Engine Flash Files

Caterpillar Machines Powered by 3116, 3126, 3176B, 3176C, 3196, 3406E, 3408E, or 3412E Engines

Currently, Flash Files can be obtained from two sources. One source is the Caterpillar Mailbox System Bulletin Board and the other source is the SIS Setup & Tool Guide CD. The Bulletin board is updated as soon as the new Flash Files become available. The SIS CDs are updated monthly and contain the Flash Files that were available on the twentieth day of the preceding month. Following, is a description of the methods used to obtain Flash Files from the Bulletin Board and the SIS CD.

Obtaining Flash Files from the Bulletin Board

Obtaining Flash Files from the Bulletin Board requires the use of an error correcting modem. to download files quickly, a modem baud rate of 14.4 k baud or higher is recommended. Refer to the service literature for the modem to see if it is adequate.

Use the following procedure to get access to the Bulletin Board:

1. Obtain HyperACCESS/5 (DOS-OS/2 Version) and install it into the PC that will be used to obtain the Flash Files. HyperACCESS/5 is PC communications software that can be ordered from Caterpillar (LERQ3133) or purchased from outside vendors. HyperACCESS/5 is required for Flash File download from the Caterpillar Mailbox System Bulletin Board.

2. Once HyperACCESS/5 has been installed, call 1-800-HELP-EDI or 309-675-0834 and select option No. 7. Step by step, instructions will be given in order to register the PC and download information into the PC, such as Bulletin Board telephone numbers. Multiple PC) registration instructions can also be obtained by calling the numbers listed above.

Once the PC has been setup to receive Flash Files from the Bulletin Board, the following steps can be used to obtain the desired Flash Files:

1. From the DOS Prompt (usually C:\. >), type cd\ HA5. Enter
2. The prompt should now be C:\ HA5>, type HA5dos. Enter
3. From the HyperACCESS/5 menu now displayed, type C for "Call a system".
4. Type D for Data Call.
5. Select Flash Download from the system list in the lower half of the menu.
6. The program displays a menu with three options. Select Option No. 1. Receive Flash part Number Files. Enter in the Flash File name as directed. (A complete list of Flash File part numbers for a given application can be accessed in the FIND system and are listed in Special Instruction, SEHS9914.) Multiple files can be downloaded by using the "wild card" character *. For example, 9 the Flash File name 122286* was entered, all Flash Files on the Bulletin Board with file names from 1229860 to 1222869 would be downloaded.
7. The program then connects to the Bulletin Board and the file(s) are downloaded into the Flash Directory in the PC. After the download is complete, the same menu mentioned in Step No-6 appears and the user may download additional files or exit the program.

Obtaining Flash Files from the SIS Setup & Tool Guide CD

This Procedure requires that the PC used be equipped with a DC ROM drive. Use the following procedure to locate the Flash Files contained in the SIS Setup and Tool Guide CD:

I - Insert the SIS Setup and Tool Guide CD into the CD ROM drive. Do not start the SIS program.

2. At this point, the user can access the Flash Files using File Manager in Windows or DOS commands. The Flash Files are located in the Flash directory. If using DCS commands, at the DOS prompt type ID:, then hit Enter.
3. Type r-d\ Wash. Enter.
4. At this Point, DOS commands can be used to copy the desired Flash Files to a floppy disc for use in another PC or the Flash program can be executed by simply typing Flash. This assumes that the PC is Properly connected to an ECM.

The SIS Setup and Tool Guide CD also contains a Flash File cross reference that is identical to the one in the FIND system. The file name is "readxref.txt" and it is, also located in the Flash directory of the SIS CD.

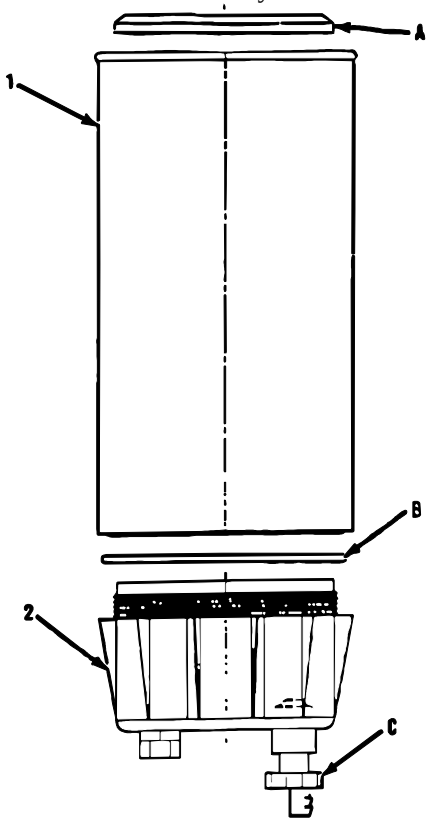
129-0372 Primary Fuel Filter/Water Separator Assembly Used on 3408E and 3412E Machine Engines with Hydraulic Electronic Unit Injection (HEUI)

1260,1263

Caterpillar Machines Powered by 3408E or 3412E Engines Equipped with HEUI

The 3408E and 3412E Engines in these machines are equipped with a 129-0372 Primary Fuel Filter/Water Separator Assembly. See the illustration. The primary fuel filter/water separator assembly consists of a 129-0373 Element and a 129-0375 Bowl. The element includes the larger upper beveled seal (A) and the smaller lower seal (B). The bowl includes the smaller lower seal (B).

Components of the 129-0372 Primary Fuel / Water Separator



Assembly. 129-0373 Element (1). 129-0375 Bowl (2). Larger upper beveled seal (A). Smaller lower seal (B). Drain valve (C).

The water from the fuel accumulates in the bowl. Drain valve (C) is part of the bowl. The drain valve allows any water that accumulates in the bowl to be drained. If the water is not drained when the bowl becomes full, an increased resistance to fuel flow will result.

Note: Fuel quality is very important. The fuel supply should be maintained properly and kept free of contamination by water and sediment. Water contamination of the fuel can be minimized by obtaining fuel from reliable sources and by draining the fuel tank regularly.

The Maintenance Schedule for the 129-0372 Primary Fuel Filter/Water Separator Assembly follows:

- o Every 10 hours of operation or daily**,** drain the water separator bowl and drain water and sediment from the fuel tank.
- a Every 500 hours of operation or every three months, replace the primary fuel filter/water separator element (use a 129-0373 Element).

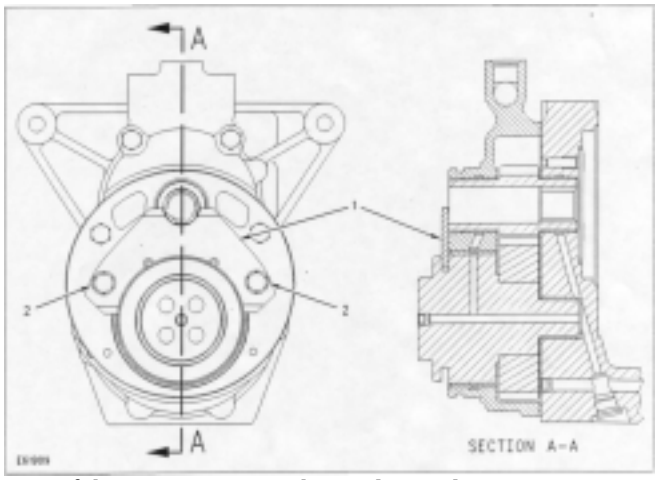
Note: It is still necessary to service the secondary fuel filter element as follows: Every 250 hours of operation or monthly, replace the secondary fuel filter element (use a IR-0749 Element).

New Steel Thrust Plate Replaces Bronze Thrust Plate in Hydraulically Actuated Electronically Controlled Unit Injector (HEUI) Pump Drive Groups

D9R (7TL, 8BL),
D10R (3KR) Track-Type Tractors;
24H (7KK) Motor Graders;
73D (1GW) Underground Truck;
631 E (1AB),
633E (2PS),
637E (1FB),
651E (4YR),
657E (5YR, 6PR, 6TR, 7KR) Wheel-Tractor
Scrapers;
769D (5TR, 5SS),
771 D (6JR),
773D (7ER, 7CS),
775D (6KR) Off-Highway Trucks;
834B (7BR),
844 (2KZ) Wheel Tractors;
836 (7FR) Compactors;
988F (2ZR),
990 (4FR) Wheel Loaders;

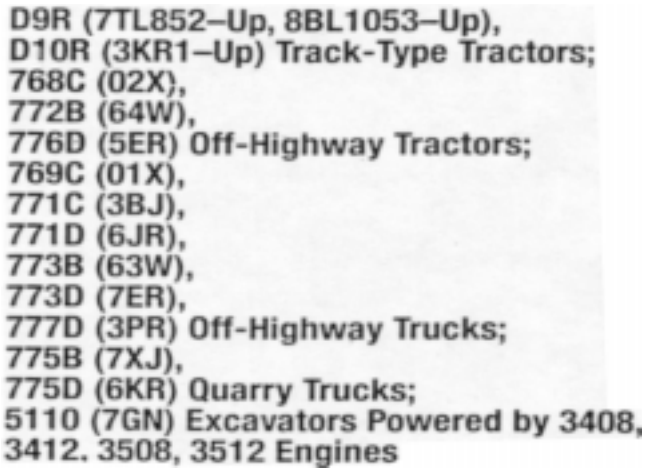
Description Of Change: A new steel thrust plate is used in the Hydraulically Actuated Electronically Controlled Unit Injector (HEUI) pump drive groups on the 3408E (99C) and 3412 (80M) Engines in these machines. The new steel thrust plate provides greater strength to resist breakage in high load applications. A broken thrust plate can result in the loss of the speed-timing signal.

Adaptable To: The new 150-2392 Thrust Plate (1) and 9N-0869 Washers (2) replace the former 124-6639 Thrust Plate and 9M-1974 Washers in the 125-3427 and 125-3430 HEUI Pump Drive Groups on 3408E (99C) and 3412E (80M) Engines respectively. The former 124-6639 Thrust Plate is canceled.



Location of the new 150-2392 Thrust Plate and 9N-0869 Washers in the HEUI Pump Drive Groups.

Variable Speed Fan Drives



This article supersedes the previous:

Service Magazine, February 26, 1996,, Page 4; "Service Manual And Service Kits Available For Engine Variable Speed Fan Clutch".

Service Magazine: April 1, 1996; Page 15; "Two Service Kits are available for the Fan Clutch in Machine Engines".

A Variable Speed Fan Drive is standard equipment on the D10R Track-Type Tractor and 5110 Excavator and optional equipment on the other machines listed in the subtitle. These machines are powered with:

3408 or 3412 Engines with mechanical fuel injection, 3408E or 3412E Engines with electronic controls and hydraulically actuated electronic unit injection (HEUI) fuel systems
3508 or 3512B Engines with electronic controls and electronic unit injection (EUI) fuel systems

The 61-4427, 123-6968, and 136-7609 Variable Speed Fan Drive Groups can be found on these machines. The purpose of the variable speed fan drive is to reduce fuel consumption by minimizing fan horsepower demand and to satisfy environmental noise regulations.

Service Publications

Service Manual, SENR8603, "Variable Speed Fan Drive", describes how the variable speed fan drive operates and provides disassembly and assembly information. The fabricated tools required to service these fan drives are shown in this service manual.

A Service Magazine; April 15, 1996; Page 1; "Engine Variable Speed Fan Clutch System Service Tips", provides some troubleshooting information on the fan drive 101-0329 Solenoid Valve Assembly (pressure regulating valve).

Serviceability

The 61-4427 and 123-6968 Fan Drive Groups are serviced with the same seal kit and overhaul kit. The 123-6968 Fan Drive Group incorporates a fan speed sensor while the 61-4427 Fan Drive Group does not. The speed sensor is used on engines equipped with an Electronic Control Module (ECM). The 123-6968 Fan Drive Group or the 136-7609 (preferred choice) Fan Drive Group can be used as a replacement for the 61-4427 Fan Drive Group. If this substitution is made, the speed sensor remains disconnected, and the fan drive will operate property. The 136-7609 Fan Drive Group can be used to replace the 123-6968 Fan Drive Group on D10R Tractors ONLY. Validation work, to ensure proper operation of the 136-7609 Fan Drive Group, has not been completed for the other applications,

An experienced service technician, using the recommended tools, can rebuild the above fan drive groups in approximately two hours. The first attempt at rebuilding a fan drive group may require as much as four hours to complete. The rebuilding time does not include the fan drive removal and installation time.

Installation

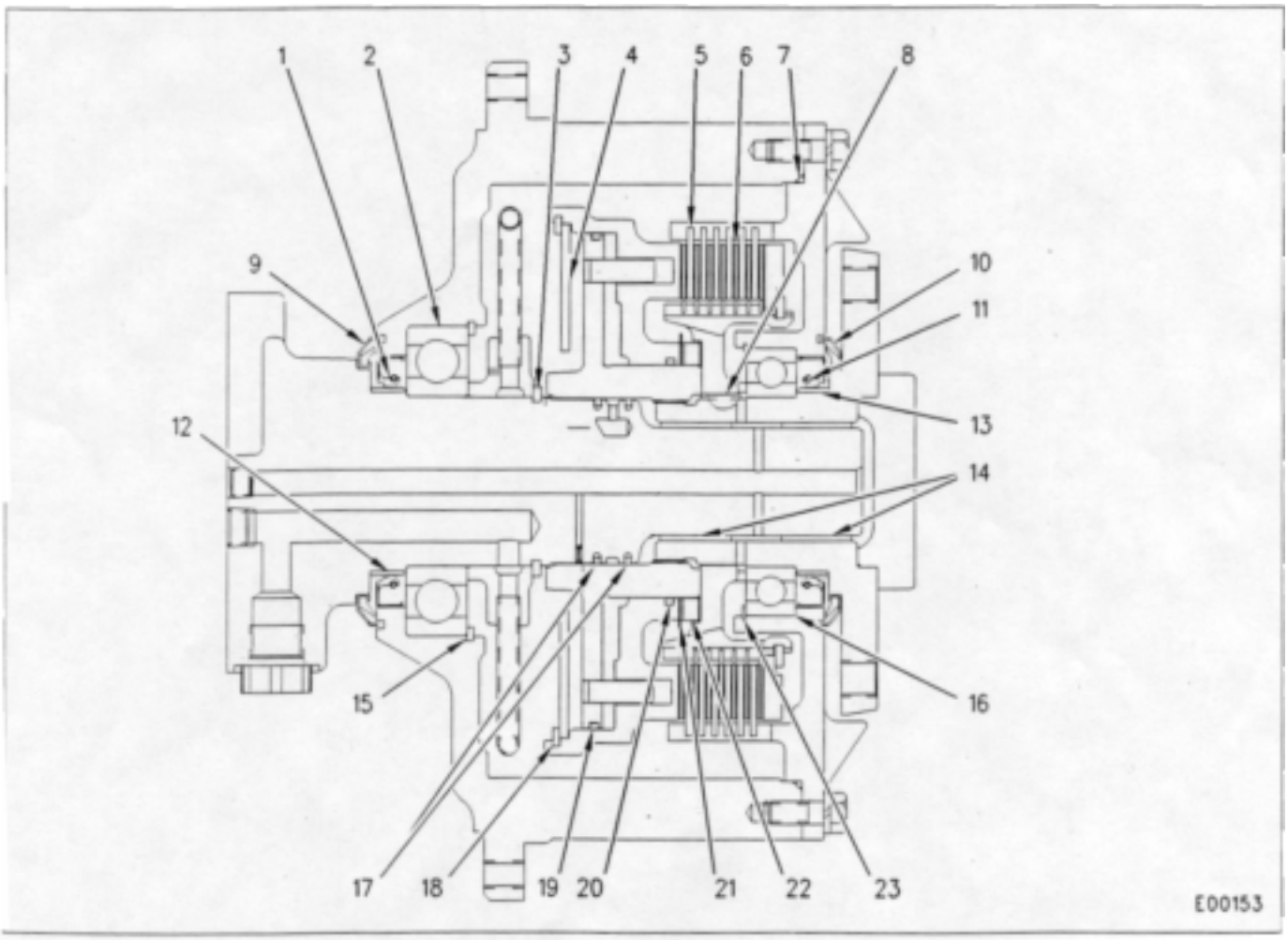
When installing a 123-6968 or 136-7609 Fan Drive Group on a D10R Tractor, make sure the 125-5035 Orifice Plug (Allen head) is NOT installed inside the control port supplying oil to the clutch piston. The control port is located inside the fan drive group 4-bolt mounting flange, on the right side of the machine. If the orifice plug is installed in the control port of the fan drive group on a D10R Tractor, the oil flow restriction will shorten the service life of the clutch in the fan drive group. The 125-5035 Orifice Plug is used in all the other machine applications. The control port is located inside the fan dove group 4-bolt mounting flange, on the right side of the machine for D10R, D9R Tractors, and 5110 Excavators. The control port is located on the left side of the machine on all off-highway trucks, off-highway tractors, and quarry trucks.

On D10R (3KR1-614) Tractors operating in cold ambient conditions, it is possible for an oil leak to develop past the fan drive low-pressure shaft seals. Reducing the fan drive case pressure with a less restrictive drain line configuration can solve this problem. To install this less restrictive drain line configuration, a 135-988 Engine Front Cover, a 6V-8642 Connector, and a 6V-4589 O-Ring Seal are required. The new engine front cover has a larger drain opening. The drain tube remains unchanged.

Less restrictive drain lines and fittings are also being used on 3400 Powered Off-Highway Trucks. This procedure has been previously published in "FIND"-TEXT.

Chart A - Fan Drive Group Seal Kit, Overhaul Kit Cross Reference

Model	Identification Number	Fan Drive Part No.	Seal Kit Part No.	Overhaul Kit Part No.	Speed Sensor Gp. Part No.
D10R	3KRI-734	123-6968	121-5756	121-5767	119-4166
D10R	3KR735-Up	136-7609	141-9853	141-9854	119-4166
D9R	7TL852-Up	136-7609	141-9853	141-9854	119-4166
D9R	BBLIG53-Up	136-7609	141-9853	141-9854	119-4166
5110	7GN, 8HN	123-6968	121-5756	121-5767	119-4166
768C	02X	61-4427	121-5756	121-5767	119-4166
769C	01X	61-4427	121-5756	121-5767	119-4166
769D	5TR	123-6968	121-5756	121-5767	119-4166
771C	3BJ	61-4427	121-5756	121-5767	119-4166
771D	6JR	123-6968	121-5756	121-5767	119-4166
772B	64W	61-4427	121-5756	121-5767	119-4166
773B	63W	6I-4427	121-5756	121-5767	119-4166
773D	7ER	123-6968	121-5756	121-5767	119-4166
775B	7XJ	61-4427	121-5756	121-5767	119-4166
775D	6KR	123-6968	121-5756	121-5767	119-4166
776D	5ER	123-6968	121-5756	121-5767	119-4166
777D	3PR, 2YW	123-6968	121-5756	121-5767	119-4166



Identification of fan drive group seal kit and overhaul kit components.

Chart B- Components of 121-5756 Seal kit		
Item	**Qty**	**Description**
1	1	Oil seal
7	1	O-ring seal
9	1	Dust seal
10	1	Dust seal
11	1	Oil seal
12	1	Wear sleeve, rear
13	1	Wear sleeve, front
17	2	Seal ring
19	1	O-ring, clutch body
20	1	O-ring, piston

The wear sleeve identified by the blue mark on the inside diameter must be installed at the rear of the clutch shaft. The wear sleeves must be installed in the correct positions to prevent external oil leaks.
The wear sleeve identified by the red mark on the inside diameter must be installed at the front of the clutch shaft. The wear sleeves must be installed in the correct positions to prevent external oil leaks.

Chart C Components of the 121-5767 Overhaul kit		
Item	**Qty**	**Description**
2	1	Ball bearing, rear
3	1	External snap ring
5	6	Separator plate
6	7	Friction plate
8	3	Woodruff key
14	2	Sleeve bearing
15	1	Internal snap ring
16	1	Ball bearing
18	1	Internal snap ring
21	1	Thrust washer
22	1	Spring washer
23	1	Internal snap ring
23	1	Internal snap ring
23	1	Internal snap ring
	1	121-5756 Seal kit

Variable Speed Fan Drive Usage

Chart A identifies which fan drive groups, overhaul kit, and seal kits are used on which machines. Chart B and the illustration identify the components in the 121-5756 Seal Kit. Chart C and the illustration identify the components in the 121-5756 Overhaul Kit. Chart D and the illustration identify the components in the 141-9853 Seal Kit. Chart E and the illustration identify the components in the 141-9854 Overhaul Kit.

Note: The 61-4427 and 123-6968 Fan Drive Groups use the same 121-5756 Seal Kit and 121-5767 Overhaul Kit. The 123-6968 and 136-7609 Fan Drive Groups use the same 119-4166 Fan Speed Sensor Group.

Chart D Components of 141-9853 Seal Kit		
Item	**Qty**	**Description**
1	1	Oil seal
4	1	Balance plate
7	1	O-ring
9	1	Dust seal
10	1	Dust seal
11	1	Oil seal
12	1	Wear sleeve, rear
13	1	Wear sleeve, front
17	2	Seal ring
19	1	O-ring
20	1	O-ring

The wear sleeve identified by the blue mark on the inside diameter must be installed at the rear of the clutch shaft. The wear sleeves must be installed in the correct positions to prevent external oil leaks.
The wear sleeve identified by the red mark on the inside diameter must be installed at the front of the clutch shaft. The wear sleeves must be installed in the correct positions to prevent external oil leaks.

Chart E Components of 141-9854 Overhaul Kit		
Item	**Qty**	**Description**
2	1	Ball bearing
3	1	External snap ring
5	5	Separator plate
6	6	Friction plate
8	3	Woodruff key
14	2	Sleeve bearing
15	1	Internal snap ring
16	1	Ball bearing, front
18	1	Internal snap ring
22	1	Compression spring
23	1	Internal snap ring
	1	141-9853 Seal Kit

Troubleshooting

When using the service tool (ET or ECAP) to troubleshoot the 123-6968 or 136-7609 Fan Drive Groups, DO NOT leave the fan in the Fan Override Mode (maximum fan speed) permanently since the fan drive clutch bearings may be damaged.

Improved Hoses are Now Used on the 988F Series II Wheel Loader Steering Control

Wheel Loaders:
988F Series II (PIN: 2ZR1 -Up)

Description Of Change: Improved hoses are now used on the 988F Series **II** Wheel Loader steering control. The new hoses provide a longer service life and better serviceability. The new hoses are effective with 988F Series 11 (PIN: 2ZR2014-Up) Wheel Loaders.

Adaptable To: The new hoses are adaptable to first production of the 988F Series **II** Wheel Loaders.

Table 1

Parts List		
Qty	**Part NR**	**Description**
1	7W-7381	Outlet Fitting
2	6V-8397	O-ring Seal
1	6V-8724	Elbow
1	6V-8636	Seal Adapter
2	178-7981	Hose Assembly
3	3J-1907	O-ring Seal

⚠ WARNING

Personal injury or death can result from escaping fluid under pressure.
Escaping fluid under pressure, even a very small pinhole size leak, can penetrate body tissue, causing serious injury, and possible death.

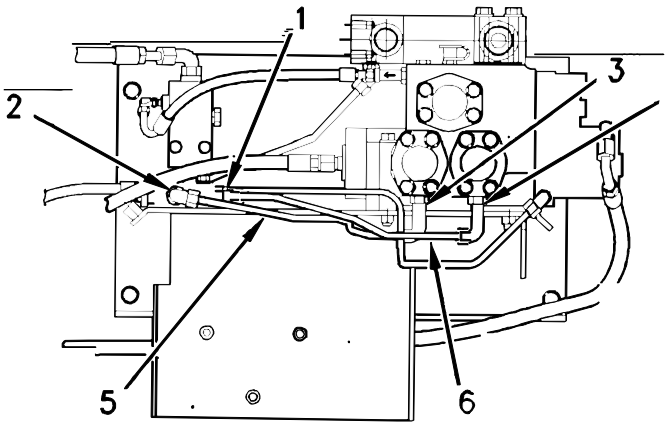
Always use a board or cardboard when checking for a leak.

Do not check for pinhole leaks in pump or motor hoses during a steer stall condition.

If fluid is injected into your skin, it must be treated by a doctor familiar with this type of injury immediately.

1. Refer to Service Manual module, SENR5737,

"Disassembly and Assembly, 988F Wheel Loader Machine Systems", "Remove and Install Steering Control Valve" steps 1 through 4 in order to



relieve the steering system hydraulic pressure.

Illustration 1
(1) 6V - 9001 Elbow. (2) 6V - 8724 Elbow.
(3) 8T - 1 905 Elbow. (4) 8T - 1905 Elbow.
(5) 127 - 4962 Tube. (6) 127 - 4963 Tube.

2. Remove127-4962 Tube (5) and127-4963 Tube (6).
3. Remove 8T-1 905 Elbow (3). Replace 8T-1905 Elbow (4) with a 3J-1907 Seal and a 7W-7381 Outlet Fitting. Attach a 6V-8724 Elbow with a 6V-8397 0-ring Seal and a 3J-1907 0-ring Seal to the 7W-7381 Outlet Fitting.
(7) 6V-8636 Seal Adapter. (8) 178-7981 Hose Assembly. (9) 178-7981 Hose Assembly.
4. Install 6V-8636 Seal Adapter (7) with a 3J - 1907 0-ring Seal and a 6V-8397 0-ring Seal. Install 178-7981 Hose Assembly (8). Install 178-7981 Hose Assembly (9).
Note: The position of elbow (1) and elbow (2) may need to be changed in order to connect the hose assemblies.

Updated Software for 3408E and 3412E Engines in Off-Highway Trucks

769D (5TR),
771D (6JR),
773D (7ER),
775D (6KR) Off -Highway Trucks;
69D (9SS),
73D (IGW) Underground Trucks

New software is available for 3408E and 3412E Engines in certain off-highway trucks. The following changes have been implemented in the new software:
* Modified fuel-air ratio control
* Elevated low idle speed while coasting in neutral
* Selectable throttle pedal
* Modification to engine pre-lubrication
* Improved cold mode strategy

The fuel-air ratio control uses a different map to reduce the amount of smoke produced while the dump body of the truck is being raised. This will also help prevent air filter clogging.

The engine low idle speed is elevated when the truck is in neutral and the vehicle speed is greater than 12 miles per hour. This ensures sufficient lubrication pressure will be maintained in the transmission system.

The new software offers a selectable throttle pedal feature that accommodates the new throttle pedal and the former throttle pedal. Within the configuration menu the Selectable Throttle must be set to "l " for former throttles. The default setting is "O", which is for new throttles. The new throttle will seem to be more sensitive and reach full throttle sooner if the former throttle is selected. The former throttle will not have the full range of engine speed available, therefore the maximum engine speed will be limited if the new throttle is selected.

The interval for engine pre-lubrication to timeout has changed from 15 seconds to 17 seconds. The pressure required to end engine pre-lubrication has changed from 28 kPa to 3 kPa. These changes will reduce the number of engine pre-lubrication timeout diagnostics.

Three aspects of the cold mode have been modified in order to improve engine performance and component life. The strategy now has a more accurate way of measuring oil viscosity in relationship to oil temperature. A tolerance between desired and actual injection actuation

Flash Files for Off-Highway Trucks			
Engine	**Application**	**New File**	**Old File**
3408E	69D(9SS)	143-7923	142-7125
	769D(5TR)		
	771D(6JR)		
3412E	73D(1GW)	143-7926	142-7128
	773D(7ER)		
	775D(6KR)	143-7929	142-7131

New software is available for 3408E and 3412E Engines in certain off-highway trucks. The pressure has been added to help improve pressure stability. The injection duration is now limited to reduce cylinder pressure as well as the rate of rise of cylinder pressure.

The new software is listed in the table above:

For the trucks listed above, the selectable throttle setting must be changed. After the new software is flashed, go to the selectable throttle setting in the configuration menu. Change the setting from the default value of "O" to the new value of "l ". This is applicable for trucks with the former style of throttle. Trucks with 5SS, 6YS, 7CS, 8AS, 9YS, and 9XS serial number prefixes will require no change.

Protect Wiring from Welders

All manufacturers have specific guidelines for welding on machines with electronic systems. Follow them to the letter. If current from the welder finds an easier path to ground through an electrical circuit, weld voltage will almost certainly destroy something in the circuit. Block paths to ground by opening the main battery disconnect switch. Then isolate the welder from the machine’s circuits by cleaning paint from a spot on the work piece as close as possible to the weld joint and securely attaching the welder’s clamp there.

Safety Recall Campaigns

Cars, Vans, Light Duty Trucks

Ford Motor Company
Models:
Ford Explorer **Years:** 1999-2000
Mercury Mountaineer **Years:** 1999-2000
Number Involved: 208,903
Dates of Manufacture: September 1998 – September 1999
Defect: Sport utility vehicles equipped with 4.0L engines and all time 4-Wheel Drive power trains. The generic electronic module could experience a condition referred to as "lock-up" in which the GEM controlled electronic functions (e.g., front windshield wipers, interior lights, 4x4 system, etc.) could not be turned on or, in some cases if the function is on, could not be turned off.
Remedy: Dealers will install a resistor in the GEM circuit. The manufacturer has reported that owner notification began April 15 2000. Owners who do not receive the free remedy within a reasonable time should contact Ford at 1-800-3923673.
[NHTSA Recall No. 00V072/Ford Recall No. 00S04]

General Motors Corporation
Models:
Chevrolet S10 **Year:** 2000
Chevrolet Silverado **Year:** 2000
GMC Sonoma **Year:** 2000
GMC Sierra **Year:** 2000
Number Involved: 10,674
Dates of Manufacture: August 1999
Defect: On certain light duty trucks equipped with 4 wheel disc brakes, the Antilock Brake System (ABS) motor contains an out of specification spring clip. This clip could allow the motor bearing to become misaligned. If misalignment occurs, eventually the ABS would be non functional. The base brakes would remain fully functional, but the Dynamic Rear Proportioning system, which optimizes front to rear brake balance, would become inoperative, increasing the likelihood of a crash.
Remedy: Dealers will replace the brake pressure module valve assembly. The manufacturer has reported that owner notification will begin during April 2000. Owners who do not receive the free remedy within a reasonable time should contact Chevrolet at 1-800-222-1020 or GMC at 1-800-462-8782.
[NHTSA Recall No. 00V055/GM Recall No. 00013

School Buses, Medium / Heavy Duty Trucks and Trailers

Blue Bird Body Company

Models:
Blue Bird All American **Years:** 1998-2000
Blue Bird TC2000 **Years:** 1998-2000
Blue Bird Q-Bus **Years:** 1998-2000
Blue Bird Commercial **Years:** 1998-2000
Number Involved: 3,113
Dates of Manufacture: March 1998 - February 2000
Defect: On certain rear engine school and transit buses and All American front engine school and transit buses equipped with Bendix ABS anti-lock braking system, the primary and secondary brake treadle valve air lines were installed incorrectly at the Bendix R12DC relay valve.

Remedy: Dealers will correct the airline plumbing at the Bendix R12DC relay valve. The manufacturer has reported that owner notification was to begin during March 2000. Owners who do not receive the free remedy within a reasonable time should contact Blue Bird at 1-912-825-2021.
[NHTSA Recall No. 00V051/Blue Bird Recall No. R00DR]

General Motors Corporation

Models:
Chevrolet C3500HD **Year:** 2000
GMC C3500HD **Year:** 2000
Number Involved: 1,462
Dates of Manufacture: August - September 1999
Defect: On certain chassis cabs, the tapered hole in the drag link end that attaches to the pitman arm tapered ball stud may be machined too deep, causing the hole to be oversized. A drag link with an oversized hole may not "seat" the pitman arm tapered ball when assembled. This could cause higher than normal friction between components during operation, and possibly result in joint separation or a broken ball stud. If the joint separated or the ball stud broke, steering control would be lost.
Remedy: Dealers will inspect the steering linkage assembly and, if necessary, replace the drag link and the pitman arm. The manufacturer has reported that owner notification was to begin during March 2000. Owners who do not receive the free remedy within a reasonable time should contact Chevrolet at 1-800-222-1020 or GMC at 1-800-462-8782.
[NHTSA Recall No. 00V054/GM Recall No. 00008]

Blue Bird Body Company

Models: Blue Bird All American **Years:** 1998-2000
Number Involved: 779
Dates of Manufacture: March 1998 - February 2000
Defect: On certain front engine school and transit buses, the power distribution unit (PDU) cables are inadequately supported and routed in close proximity to the steering pitman arm. The cable can chafe and result in an electrical short, possibly disabling the vehicle.
Remedy: Owners will be provided with systematic repair instructions. The manufacturer has reported that owner notification began during late March 2000. Owners who do not receive the free remedy within a reasonable time should contact Blue Bird at 1-912-825-2021.
[NHTSA Recall No. 00V071/Blue Bird Recall No. R00DS]

Freightliner Corporation

Models: Freightliner Argosy **Years:** 1998-2000
Number Involved: 12,380
Dates of Manufacture: November 1998 - February 2000
Defect: On heavy-duty trucks equipped with certain 12-volt power outlets, an unplugged hole in the floorboard can allow road salts and moisture into an area where a 12-volt power outlet is mounted. A short between the outlet terminals could develop which could cause an electrical fire.
Remedy: Dealers will inspect all vehicles to determine if a floorboard plug was installed. On vehicles found without a plug, a new outlet and plug will be installed. The manufacturer has reported that owner notification will begin during May 2000. Owners who do not receive the free remedy within a reasonable time should contact Freightliner at 1-800-547-0712.
[NHTSA Recall No. 00V082/Freightliner Recall No. FL-256]

TIRES

Continental General Tire Inc.

Models: Continental P185/70R14
Number Involved: 3,109
Dates of Manufacture: October - November 1999
Defect: Certain tires were produced with a non-specified rubber compound in the belt area, creating the risk for potential tire failure.
Remedy: Continental is notifying consumers to take their defective tires to an authorized dealer to have the tires replaced with an identical or reasonable equivalent tire free of charge, including mounting and balancing. The manufacturer has reported that owner notification was to begin in April 2000. Purchasers of these tires should contact their dealer or call Continental at 1-800-847-3349 to register with the manufacturer for the recall. [NHTSA Recall No. 00T002]

CESE Maintenance, Repair and Operation Builder and Military Skills Video Tapes

The following listed videotapes are available from the Seabee Logistics Center, Code 43, 1000 23rd Avenue, Port Hueneme, CA. 93043. These tapes are from various manufacturer's, such as Bendix, Caterpillar, Champion, Chrysler, Detroit Diesel, Ford, General Motors, and John Deere and are VHS format only.

Request must be submitted by the Maintenance Supervisor and must show their, name, rank/rate, command, address and DSN telephone number. Incomplete request will not be shipped. Due to the limited number of videotapes of a specific title, loan of videotapes are limited to 30 calendar days.

Request will be filled on a "first come, first serve basis". You may request up to eight videotapes, in priority sequence on the request form; we will send you up to four videotapes if available. If none are available, we will notify you. For an order form, visit our Video Library Intranet Site at http://ncf.navfac.navy.mil/slc/Int%20log%20supp.htm. For questions concerning these videotapes, contact CMCS (SCW) Myers at DSN 551-5509 or COM. 805-982-5509.

CONVERSION FROM DIESEL FUEL (DF2, DL2, DF1, DL1) TO JET PROPELLANT 8 (JP8)

The Department of Defense has identified JP5 and JP8 as the single battlefield fuel for all in-theater operations. In overseas theaters, where the predominant fuel requirements support the Navy, JP5 may be substituted for JP8 due to it's higher flash point. This means that during tactical operations and at overseas deployment sites you will be converting to JP5 or JP8 fuel. Testing has demonstrated that either fuel will provide acceptable performance. There have been no major problems associated with the conversion to jet propellant fuel, but you may initially experience some minor problems during the conversion.

The problems you experience will depend on the type of equipment you have, how often you operate it, and the climate in which you operate. You may experience fuel filter plugging due to the cleansing effect of jet propellant fuel on microbiological growth and other contaminants in the fuel tank and lines. This microbiological growth will be more severe in equipment that is rarely exercised, and in temperate, high humidity areas. Growth will be less severe in equipment you use daily, and in cooler, less humid areas.

If your unit is experiencing fuel filter plugging problems during a conversion, replace the fuel filters as needed. Fuel filter plugging problems should go away after a couple of tanks of jet propellant fuel. Once a conversion is completed the use of diesel fuel should be avoided, but is not prohibited.

DF2 fuel is the standard by which all manufacturers determine power ratings. Jet propellant fuel has less BTU's per gallon than DF2/DL2 fuel and the same potential energy as DF1/DL1 fuel. Depending on the type of fuel system on your equipment, the use of JP5 or JP8 fuel may cause a 3% to 5% decrease in an engines rated power due to its lower heat content.

Jet propellant fuel is very highly refined, which causes the removal of wax normally found in diesel fuel. The wax acts as a lubricant for the fuel injection system components. Additionally jet propellant fuel has less

viscosity than diesel fuel. Lack of viscosity and lubrication can adversely affect the durability of the fuel injection system if that system is not designed to tolerate the reduced lubrication qualities of some jet propellant fuels. The additives required in JP8 fuel enhance the lubricity properties of the fuel preventing fuel pump wear in rotary type fuel distribution injection pumps.

If your unit experiences lubricity problems using jet propellant fuels, keep the fuel tanks topped off. The fuel passing through the system heats up and excess fuel that is not injected is bypassed back to the tank. The less fuel in the tank the more the temperature of the fuel will increase, causing a reduction in fuel viscosity and a corresponding decrease in the hydrodynamic film strength. High ambient temperature further compounds this problem. Do not attempt to increase lubricity by adding motor oil, transmission fluid or any fuel additives not on the Qualified Products List. This practice will only compound the problem by increasing combustion chamber deposits and clogging fuel injectors, which will increase engine temperatures and reduce performance.

ADDING RUN FLAT LUBE

There is an art to adding lubricant to the inside of HMMWV tires before installing the run flat device. Do it wrong and you'll wear out a run flat and a tire before their time.

1. If the tire's been used before, remove any foreign matter or old lubricant with warm soapy water and a brush. Let the tire dry.
2. Use all of one 11 oz. tube of lubricant, NSN 2640-01-419-6200, for each run flat device. Spread the lubricant evenly over the inside of the tire to a depth of 1/8 to 3/16 inch. Use a 2 to 4 inch paintbrush to apply the lubricant. Areas inside the tire that are covered include the crown and the upper portion of the inner sidewall.

Have You Flushed Your Cooling System

The cost of overhauling an engine can run into thousands of dollars; automatic transmission repairs also are expensive. Moreover, cooling system neglect could be responsible. This system performs several functions. It must keep the engine running within specified temperatures, not too hot and not too cold. It cools the automatic transmission and it circulates hot water through the heater. Temperatures inside an engine may soar to 4,500 - 5,000 degrees F., enough to melt an engine block in a matter of minutes if it were not for the cooling system. Over the years, there have been numerous developments that make it harder for the cooling system to perform these tasks. Today's engines run much hotter than in years gone by. Added emission control systems, smaller radiators and crowded engine compartments add to the challenge. Use this checklist to be sure your vehicle will survive the hot months ahead. To avoid problems resulting from rust, dirt and mineral deposits in the cooling system, it's best to give it an internal cleaning every year or two depending on the manufacturer recommendation.

1) Begin with the engine cold and ignition off. Remove the radiator pressure cap.
2) Open the petcock at the bottom of the radiator and drain the coolant into a bucket.
3) Close the petcock and fill the radiator with water.
4) Start the engine and turn the heater control to hot. Add cooling system cleaner and idle the engine for 30 minutes (or as per the instructions on container).
5) Stop the engine and allow it to cool for five minutes. Drain the system. Close the petcock, fill the radiator with water and let the engine idle for five minutes.
6) Repeat step No. 5. Close the petcock.
7) Install new 50/50 mixture of water and antifreeze.